

Sub C1
a) binding of two or more proximity probes to a respective binding site on said analyte(s), wherein the proximity probes are comprised of a binding moiety and thereto coupled nucleic acids;

b) allowing the binding moiety to bind to the analyte(s) and allowing the nucleic acids to interact with each other if they are in close proximity to each other; and

c) detection of the degree of interaction between the nucleic acids with the proviso that the binding moiety and the analyte(s) not all comprise nucleic acid.

B1
2. (Amended) A method according to claim 1, further comprising amplification of the interacted nucleic acids and quantification of the amplification product.

Sub E1
3. (Amended) A method according to claim 1, wherein the binding moiety of the proximity probes is selected from the group consisting of proteins, peptides, carbohydrates, nucleic acids and combinations thereof.

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13. (Twice Amended) A method according to claim 1 for screening for ligand-receptor interaction antagonists in a high throughput screening procedure, wherein a drug candidate molecule is screened for ability to disrupt proximity between the proximity probes.

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14. (Twice Amended) A method according to claim 1, wherein the first proximity probe is comprised of purified analyte coupled to an oligonucleotide and the second proximity probe is comprised of a binding moiety specific for the analyte with a coupled oligonucleotide capable of interacting with the first proximity probe .

SUB
E1

15. (Twice Amended) A method according to claim 13 wherein the drug candidate molecule is a biomolecule derived from a library of potential ligands to one of the binding sites involved in the formation of the proximity between the proximity probes .

SUB
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B3

17. (Twice Amended) A method according to claim 1, comprising using said method for the detection of infectious agents.

18. (Twice Amended) A method according to claim 17, wherein the infectious agents are detected in food for humans and animals.

Please cancel non-elected claims 8-12 without prejudice to the present invention and without prejudice to applicants' rights, including those under Section 121, 120 and 119, to pursue the non-elected invention in a divisional application.

Please add new claims 19-24.

19. (New) The method according to claim 1, further comprising quantifying the interaction of the analytes in solution.

20. (New) A method according to claim 19, further comprising amplification of the interacted nucleic acids and quantification of the amplification product.

21. (New) A method according to claim 14, wherein the presence of an analyte in a sample is detected as a decrease in signal.

B4
SUB
E1

22. (New) A method according to claim 1, wherein said two or more proximity probes comprise a first said proximity probe with a 3' free nucleic acid (A), a second said proximity probe with a 5' free nucleic acid (B), and a third said proximity probe with both 3' and 5' free nucleic acids (C), and wherein the 3' end of A interacts with the 5' end of C and the 3' end of C interacts with the 5' end of B.

23. (New) A method according to claim 3, wherein the proteins are selected from the group consisting of monoclonal antibodies, polyclonal antibodies, lectins, soluble cell surface receptors, combinatorially derived proteins from